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# **Missouri State Government Annual Recycling Report Fiscal Year 2011**



**Prepared by the State of Missouri,  
Office of Administration**

# Acknowledgements

*Published by the State of Missouri, Office of Administration, Division of Purchasing and Materials Management.*

*Special thanks to the Department of Natural Resources' — Solid Waste Management Program, Missouri Interagency Recycling Committee (MIRC), department recycling coordinators and purchasing staff who contributed to this report. The Missouri State Recycling Program also wants to thank all state employees for their ongoing efforts to reduce, reuse, recycle, and buy recycled-content products.*

*State of Missouri  
Office of Administration  
Division of Purchasing and Materials Management  
301 W. High Street, P.O. Box 809  
Jefferson City, MO 65102-0809  
<http://oa.mo.gov/purch/recypro.html>*

*Questions, comments or suggestions regarding this report or the State Recycling Program may be directed to the State Recycling Coordinator.*

*Robert Didriksen  
PH: 573.751.3384  
E-mail: [Robert.Didriksen@oa.mo.gov](mailto:Robert.Didriksen@oa.mo.gov)*

## ***Recycling Symbol on Cover Page***

*The “chasing arrows” recycling symbol is internationally recognized and was born out of a national design competition in the United States in 1970 - the same year as the nation’s first Earth Day. Many people associate recycling with the act of tossing a can, bottle, or other material into a recycling container; however, this is only one part of the entire recycling process.*

*The recycling symbol appearing on the cover of this year’s report provides a more detailed accounting of the entire “recycling loop” and offers a better understanding of the important role recycling plays in Missouri’s economy as evidenced by the following economic data:*

- *“Scrap & Waste” exports regularly exceed \$100 million per quarter (MO Economic Research & Information Center)*
- *Employs over 28,000 workers (2005 MO Recycling Economic Information Study)*
- *Produces annual sales over \$5 billion (2005 MO Recycling Economic Information Study)*
- *Annual payroll over \$707 million (2005 MO Recycling Economic Information Study)*



Jeremiah W. (Jay) Nixon  
Governor



Kelvin Simmons  
Commissioner

State of Missouri  
**OFFICE OF ADMINISTRATION**  
Division of Purchasing and Materials Management  
301 West High Street, Room 630  
Post Office Box 809  
Jefferson City, Missouri 65102-0809  
(573) 751-2387 Fax: (573) 526-9817  
TTD: (800) 735-2966 Voice: (800) 735-2466  
[www.oa.mo.gov/purch](http://www.oa.mo.gov/purch)

James Miluski  
Director

January 1, 2012

To the Members of the General Assembly of the State of Missouri,

In accordance with RSMo 34.031, the Office of Administration is submitting the Fiscal Year 2011 (FY11) Annual Recycling Report to summarize state government's accomplishments in the areas of recycling, waste reduction, and recycled content product procurement for the period of July 1, 2010 through June 30, 2011.

State law directs state agencies to implement policies for recycling, waste reduction, and procurement of recycled content products. The State Recycling Program, administered by the Office of Administration, Division of Purchasing and Materials Management, is responsible for assisting state agencies in these areas. The State Recycling Coordinator works cooperatively with the Missouri Interagency Recycling Committee (MIRC) to facilitate recycling and waste reduction by state employees.

Due to the efforts of state employees and MIRC, the Recycling Program experienced a successful year in FY11 as evidenced by a 71% increase in recycling revenues generated when compared to FY10. FY11 revenues also marked the highest one-year total in the program's history. The recycling efforts of state government continue to reduce the amount of waste generated at state facilities and the related costs of waste disposal. Waste reduction achievements of several agencies are summarized on pages 11 – 14 of this year's report.

We appreciate the support of the General Assembly in our recycling efforts.

Sincerely,

A handwritten signature in cursive script that reads "Kelvin L. Simmons".

Kelvin L. Simmons  
Commissioner of Administration

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# I. Missouri State Recycling Program Structure

## What is the Missouri State Recycling Program?

The Missouri State Recycling Program (**MSRP**) was established in 1989 when legislation added sections 34.031 and 34.032 to Chapter 34 of the MO Revised Statutes. The purpose of the **MSRP** is to assist State of Missouri government agencies with:

- **Procurement** of products manufactured with recycled materials.
- Coordinating **waste reduction** strategies.
- Overseeing the **collection** of recyclables by establishing recycling services contracts.

## Who is the MSRP?

There are three components to the **MSRP's** organizational chart.

The **state recycling coordinator** is dedicated to the planning and administration of recycling and waste reduction activities.

The **Missouri Interagency Recycling Committee** serves an important purpose by providing input on recycling initiatives and communicating with state employees about various recycling programs.

The efforts of **state employees** to recycle ensures the success of any recycling initiative. State employees that recycle are considered a part of the **MSRP**.



## What is the Missouri Interagency Recycling Committee?

The Missouri Interagency Recycling Committee (**MIRC**) was established in 1994. It was recognized the **MSRP** needed a way to communicate procurement and recycling policies throughout state government. **MIRC** is a vital component of the **MSRP** and meets regularly to discuss issues dealing with recycling collection, waste reduction, recycling market conditions and recycled product procurement.

## Who is MIRC?

The Recycling Committee is composed of representatives from various state departments (executive, judicial, and legislative). To learn more about recycling in your department, please contact your **MIRC** member.

A list of members is located on the internet at [www.oa.mo.gov/purch/recycling/mirc.pdf](http://www.oa.mo.gov/purch/recycling/mirc.pdf)

## II. FY11 Overview: Collection of Recyclables

### Local Recycling Services Contracts

During Fiscal Year 2011 (FY11), the Missouri State Recycling Program (MSRP) administered two local recycling services contracts. The Jefferson City and Kansas City areas were provided recycling services under these contracts for recycling of office paper and cardboard. In the Jefferson City area, the contract also provided state agencies with an option to recycle plastic bottles and aluminum cans. Charts on this page provide additional information about the past three fiscal years.

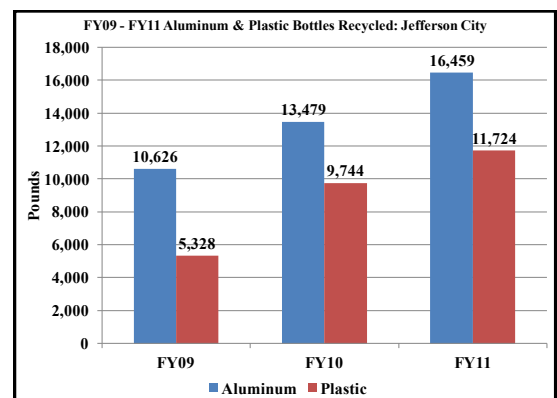
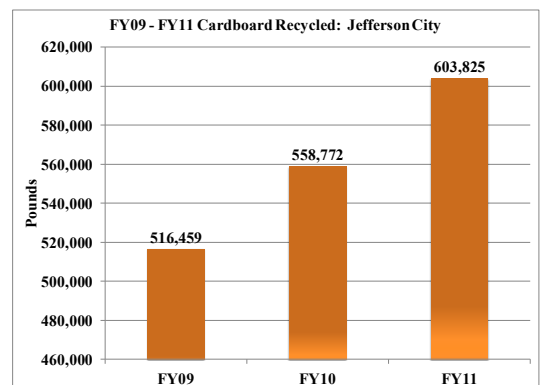
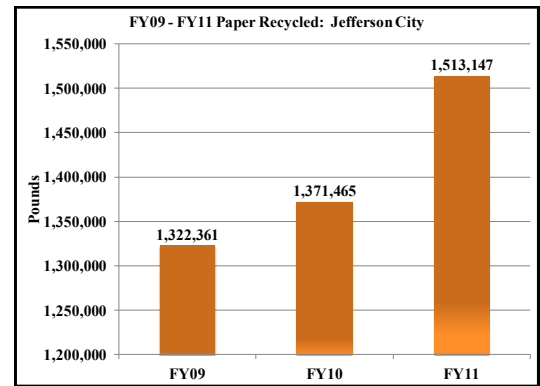
#### Jefferson City

As a result of state agency recycling activities under the Jefferson City contract, \$82,537 in revenue was generated for the State Recycling Fund. This represents a 38% increase over the amount of revenue generated in FY10. One of the materials contributing to this growth was mixed paper where an additional 141,682 pounds was recycled during FY11.

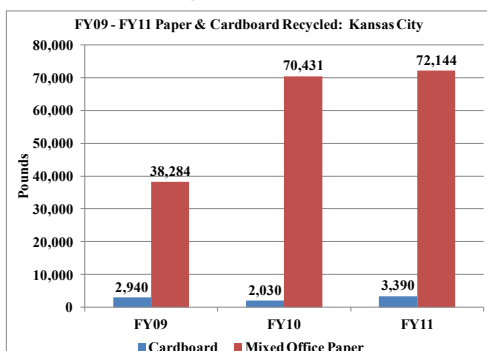
With state office consolidations, the number of locations on the loose cardboard collection route decreased to forty-five; however, collections increased by 45,053 lbs. during the FY11 period. Total cardboard collected including baled and loose material amounted to an estimated 603,825 lbs. This amount includes 89,614 lbs. of baled cardboard collected from the Truman Building and the Highway Patrol warehouse. This means that on average more than 11,500 lbs. of cardboard is recycled per week by state employees in the capital city.

During the third full year of commingled beverage container recycling, four new locations were added to the collection route bringing the total number of locations to thirty-five. State agencies recycled a total of 16,459 lbs. of aluminum cans and 11,724 lbs. of plastic bottles in FY11.

The subcontractor, Kingdom Projects (a sheltered workshop), provided loose cardboard collection services and sorted commingled beverage containers at their recycling facility.



#### Kansas City



During FY11, the Kansas City contract offered state agencies the opportunity to recycle cardboard and mixed office paper. State employees in Kansas City increased their recycling of paper to 72,144 lbs. up more than 2% from the FY10 period which saw a nearly doubling of the paper being recycled from the FY09 period. The quantity of paper recycled was nearly enough to fill two 48-foot tractor trailers.

# Statewide Recycling Services

The Missouri State Recycling Program (MSRP) coordinated two no-cost statewide recycling services for state agencies in FY11. These convenient services allowed state employees to recycle printer cartridges or rechargeable batteries. In addition, the Office of Administration's Division of Purchasing and Materials Management administered two fee-based contracts for document destruction and lamp recycling.

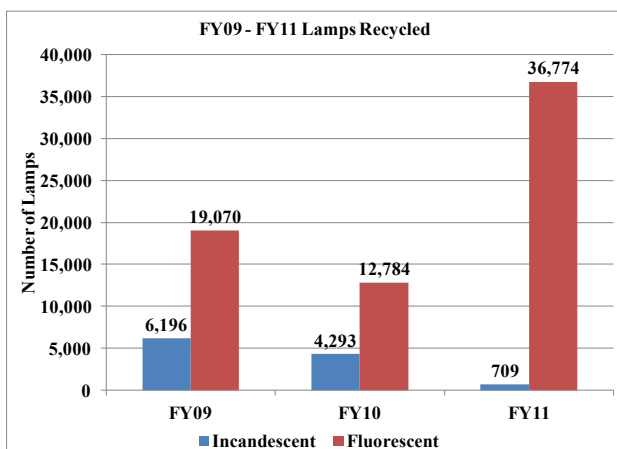
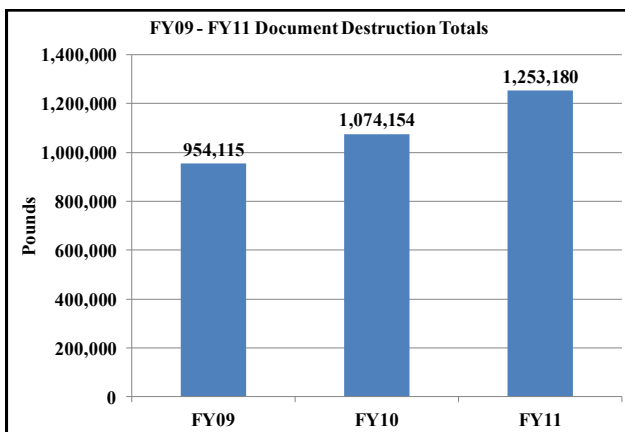
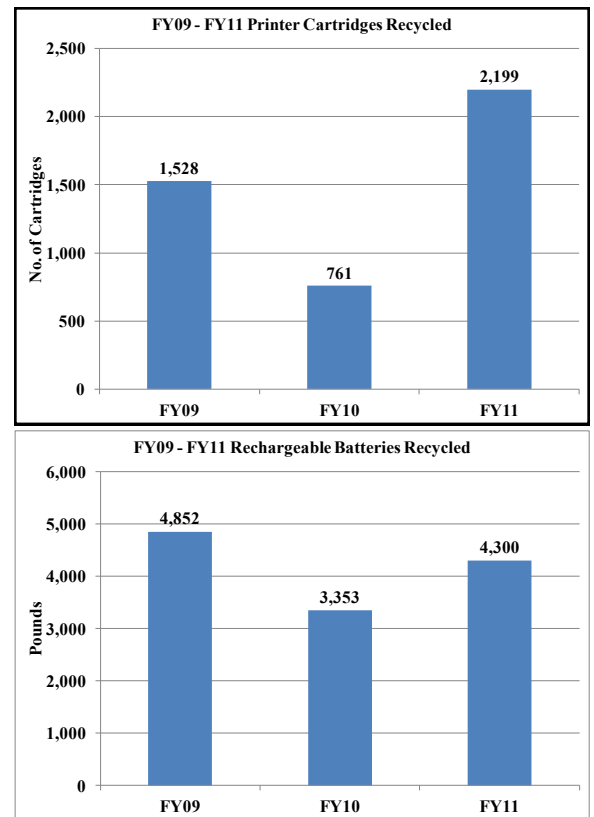
## No-Cost Services

### Printer Cartridge Recycling

As is seen in many Missouri communities, state agencies have options for recycling of their printer cartridges. The chart to the right details only those recycling activities where state agencies used the State Recycling Program's printer cartridge collection service. Information about the numbers of printer cartridges returned to the manufacturer by state agencies is not currently captured, so the quantities are not accounted for in this chart.

### Rechargeable Battery Recycling

In its seventh year, the rechargeable battery recycling service recycled 4,300 lbs. of rechargeable batteries. Over the past seven years, Missouri state government efforts have resulted in the recycling of 32,025 lbs. of rechargeable batteries. Thirty-eight locations throughout Missouri utilized this service in FY11.



## Fee-Based Services

### Shredding & Records Disposal Contract

This fee based service contract provided state agencies throughout Missouri an opportunity to have confidential documents destroyed. Costs for services varied and was based on document volume and the location of the state agency. The chart to the left shows 17% growth of this service during FY11.

### Lamp & Ballast Recycling Contract

This contract allows for the recycling of fluorescent and incandescent lights and related equipment (i.e., ballasts), as well as non-rechargeable batteries. The number of fluorescent lamps recycled in FY11 grew by an astounding 188%. While the steady decline in the numbers of incandescent lights recycled continued through FY11. This change in recycling rates is likely attributable to the installation of more energy efficient lighting in state facilities by Facilities Management.



# FY11 Department Reports of Materials Recycled

Number of Pounds Recycled	MOSERS	Agriculture	Conservation	Corrections	Elementary & Secondary Educ.	Health & Senior Services	Secretary of State	Northwest Missouri State University	Insurance, Finan. Inst., Prof. Reg.	Office of State Courts Admin.	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Social Services	Transportation	Totals by Material
Aluminum	140	C	682	141,816	C	C	C	3,925	C	C	1,501	8,431	328	138	C	C	440,011	613,431
Ballasts			2,576	C				1,037				C	18,545				980	23,138
Batteries-Non Recharge			10									177	56				108	351
Batteries-Recharge		12	283	3,533	15	35				56	184	529	1,639	3,382			7,095	16,763
Cardboard	C	9,860	7,935	3,270,864	C	C	C				44,399	19,364	7,658	21,000	C	C	230,600	4,218,895
Carpet Tiles				C	C	C	C		C	C	C	C	C	C	C	C	C	20,000
Commingled Materials				92,760							15	2,725						95,500
Electronic Scrap												498		173			7,240	125,564
Food-Yard Waste		300,000		2,981,500				4,570				7,235		77			40,000	3,333,382
Glass			60					34,670				5,721						40,451
Magazines & Catalogs			430	1,087		60					1,893	3,010		376			2,300	9,096
Media, Storage					408								8,866	20			2,266	13,986
Mercury Devices																	14	14
Mixed Office Paper	C	C	9,760	363,772	1,200		246,695		5,930		90,852	78,197		2,583	776,280		60,630	4,734,370
Newsprint			355	65,114	C	C	C	260,000	C	C	C	C	C	C	C	C	C	75,079
Plastic	C	2,340	695	76,578	C	C	C		994		6,984	2,376		250		1,427		149,115
Rubber, Scrap Tires			160	6,940				8,840			1,140	1,700		141,088			1,501,740	1,661,608
Scrap Metal		20,000	62,861	461,102							5,590	33,620	80,878	332,695	15,160		8,481,826	9,493,732
Styrofoam											150	25						175
Telephone Books			170								759	565		271			280	2,045
Textiles				806									43					849
Tin / Steel Cans			60	931,622							223	921		3,505			650	936,981
Totals Reported by Agency	140	332,212	86,037	8,397,494	1,623	95	246,695	343,712	6,924	56	166,611	173,240	118,013	505,658	791,440	1,427	10,779,260	
Total Pounds Recycled in FY11: 25,564,525																		

**Note on Boxes with C's:** A "C" in a box on this table indicates an agency recycled the designated item by utilizing the Jefferson City (JC) recycling services contract. Materials collected via the JC contract include mixed office paper, cardboard, aluminum cans, and plastic bottles. A box that has a number over a "C" indicates the agency reported material that was recycled, but not reported in the JC contract figures. For example, Public Safety reported 138 lbs. of aluminum recycled and Public Safety offices in JC utilized the JC Recycling Contract to recycle aluminum.

**Note on "Totals by Material":** Totals for Aluminum, Cardboard, Mixed Office Paper, and Plastic include figures reported by recycling contractors. Totals for Carpet Tiles, Electronic Scrap, and Media include figures reported by Surplus Property. These figures are summarized in a table on p. 9 of this report. Agencies that utilized a recycling contract, but do not appear in this table include: **State Auditor, State Treasurer, Economic Development, Higher Education, Lottery, Senate, House of Reps, Supreme Court, MCHCP, Tax Commission, Labor, Attorney General's Office, and Governor's Office.** For additional information see the "contractual reporting" box at the top of p. 9.



## FY11 Department Reports of Materials Recycled (cont.)

### Contractual Reporting / Surplus Property Summary Information for Table on Page 8

Total pounds recycled by agencies utilizing the Jefferson City and Kansas City recycling services contracts as well as the document destruction contract are summarized in the table to the right.

These figures are reported as cumulative totals due to contract reporting. Data is reported by building and it is not feasible to break out data by agency where there are multiple agencies in the same building.

FY11 Recycling Contract Totals	Jefferson City	Kansas City	Document Destruction
Paper	1,513,147	72,144	1,253,180
Cardboard	603,825	3,390	
Aluminum	16,459		
Plastic	11,724		

FY11 Surplus Property Totals	Carpet Tiles	20,000
	Electronic Scrap	117,653
	Media, Storage (adjusted)	2,366

Total pounds recycled by agencies utilizing State Surplus Property is summarized in the table to the left. For the past three years the State Recycling Program has been working with Surplus Property to measure surplus materials that are recycled.

### Number of Items and Gallons Recycled Table

Number of Items Recycled	Books, Bound Publications	Cell Phones	Fluorescent Lamps	Incandescent Lamps	Printer Cartridges	Fuel/Oil Filters	Pallets	Number of Gallons Recycled					
								Anti-freeze	Diesel / Gasoline	Oil, Cooking	Oil, Motor	Paint	Transmission Oil
Insurance, Financial Inst., Prof. Reg.					6								
Northwest Missouri State University			8,495		576						500		
Labor & Industrial Relations					34								
Elementary & Secondary Education			362		7								
Treasurer's Office					146								
Agriculture					12								
Conservation	7,010	137	2,223		6						2,630		
Corrections	1,272	41	10,439		2,278	240	3,969	160		1,435	5,066	630	
Economic Development					12								
Health & Senior Services		10			60								
Mental Health		26	35	2	565		173			570	389		
Natural Resources		14	774		708	2	6				392		
Office of Administration		26	28,860	24	5		660						
Public Safety		1	3,238		732	5,914	746	400		1,150	7,928		1,000
Revenue					2								
Social Services					301								
Transportation		375	5,471	685	1,027	100	3,130	360	2,675		98,592		
TOTALS	8,282	630	59,897	711	8,676	6,256	8,684	920	2,675	3,155	115,497	630	1,000

**Note on Total Printer Cartridges:** 2,199 printer cartridges were recycled by employees using a statewide service for this item. This figure is only reflected in the TOTALS of this table.

## Measuring the Environmental Savings of Materials Recycled\*

The Department of Natural Resources' Division of Energy utilized the Environmental Protection Agency's Waste Reduction Model (WARM) as a way to measure the environmental savings of materials recycled by state agencies in FY11. Essentially WARM is a life-cycle analysis tool that has been in development for over 10 years.

The WARM model helps us to better understand the benefits of alternative end-of-life waste management decisions such as recycling. This model is a lifecycle assessment tool which considers the energy usage and greenhouse emissions from raw material extraction until product disposal. This includes material assessment, all product transportation, manufacturing, and disposal. The model compares different disposal scenarios such as recycling, landfill, incinerating, composting, and source reduction.

The following carbon dioxide and energy reduction estimates include a majority of the materials listed in the tables on page 8 and top of page 9 of this report. The WARM model was not used to calculate environmental savings for information appearing in the "Number of Items and Gallons Recycled Table" on page 9 of this report. A complete list of materials excluded from the FY11 calculations is provided at the bottom of this page.

## Carbon Dioxide Reductions Related to Recycling\*

State of Missouri recycling efforts resulted in an estimated reduction of greenhouse gasses of 48,288 MTCO<sub>2</sub>E (metric tons of carbon dioxide equivalent). This is equivalent to . . .

- **Removing annual emissions from 8,844 passenger vehicles**
- **Conserving 5,481,036 gallons of gasoline**
- **Conserving 20,119,971 cylinders of propane used for home barbeques**
- **Conserving 252 railway cars of coal**

## Energy Reductions Related to Recycling\*

The amount of material recycled by state employees in FY11 also resulted in an estimated reduction in energy use of 578,061,000,000 (nearly 600 billion) BTUs. This amount of energy is equivalent to . . .

- **Conserving 5,389 households' annual energy consumption**
- **Conserving 99,666 barrels of oil**
- **Conserving 4,651,069 gallons of gasoline**

**\*Department of Natural Resources' Division of Energy calculated these estimates utilizing the EPA's WARM model.**

Following is a list of materials collected by state agencies in FY11 that were not included in the WARM model calculations: *Books/Bound Publications; Cell Phones; Fluorescent Lamps; Incandescent Lamps; Printer Cartridges; Fuel/Oil Filters; Pallets; Anti-freeze; Diesel/Gasoline; Cooking Oil; Motor Oil; Paint; Transmission Oil; Styrofoam; Mercury Devices; Storage Media; Batteries (rechargeable/non-rechargeable); and Ballasts.*

The 125,564 lbs. of electronic scrap was processed with the WARM model based on the assumption that this figure represented personal computers.



## Missouri State Recycling Program Annual Awards

Each year the State Recycling Program accepts nominations for the Annual Recycling Award. Employees, departments, or agencies are eligible to be nominated for outstanding contributions made in the areas of recycling collection, waste reduction, and/or recycled content procurement. Members of the Missouri Interagency Recycling Committee review the nominations and vote for an individual and agency award. The State Recycling Program encourages nominators to submit information demonstrating the *value* of the nominee's recycling efforts. *Value* could include costs avoided, revenue generated, ongoing leadership/commitment/passion/enthusiasm, environmental benefits, etc.

### FY11 Annual Recycling Awards

#### Individual Award: Douglas Dunn, Missouri Department of Natural Resources

During the fiscal year, Doug not only ensured recycling happened within the Department of Natural Resources, but also helped to facilitate recycling for other state agencies. In particular Doug helped to coordinate shipment of a load of fluorescent lamps from Social Services, the Capitol, and the Department of Elementary & Secondary Education. His efforts saved these state agencies money and insured these potentially toxic lamps were properly recycled. His efforts insured nearly 5,000 fluorescent lamps were recycled in FY11.

Doug was cognizant of making every effort to recycle materials that were no longer needed by the department when consolidating warehouse space during the year. Over a ton of paper was recovered and numerous other items were diverted from the landfill during this process.



L. to R. Governor Nixon, Douglas Dunn

#### Agency Award: Northwest Missouri State University — Community Recycling Project



L. to R. John Viau, Governor Nixon, Lezlee Johnson

Northwest Missouri State University (Northwest) is the recipient of this year's team award. Collaboration and cooperation are recurring themes in Northwest's nomination.

For many years Northwest has recycled paper, cardboard, magazines, and newspapers by utilizing an on-campus pelletizing process that allows these materials to be used as an alternative fuel in its boiler plant. These recycled paper pellets along with wood chips allowed Northwest to produce almost half of its total 2009-2010 energy needs.

Recently Northwest in cooperation with the City of Maryville launched the "Reduce Your Paw Print: Taking it to the Community" campaign to offer glass and paper recycling opportunities to the community of Maryville. This project involved numerous departments at the University and a great deal of cooperation with the City of

Maryville. Their teamwork resulted in four custom collection containers – designed and built by university staff – being placed throughout the community. Since the project was launched a request for a fifth collection container was made by a local hospital.

Northwest has taken a leadership role with recycling that has not only been beneficial to the university, but the businesses and citizens of Maryville, as well as the students who are learning – first-hand – about the value of recycling.

### Honorable Mention

The State Recycling Program thanks those who took the time to make a nomination and at the same time wants to recognize the patience, passion, and persistence that the nominees have exercised with their efforts to reduce, reuse, and recycle state government waste.

#### State Agency Honorable Mention

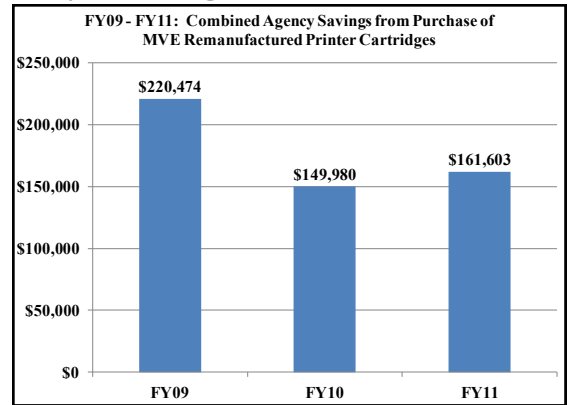
**Ozark Correctional Center — Missouri Department of Corrections**

## II. FY11 Overview: State Agency Waste Reduction / Recycling Accomplishments

### Remanufactured Toner Cartridges: State Agency Savings

For over 10 years Missouri Vocational Enterprises (MVE) has offered a toner cartridge remanufacturing service for state agencies. This service has provided state agencies an opportunity to realize significant savings and reduce waste by reusing toner cartridges.

The chart to the right illustrates the combined agency savings over the past three years for agencies that purchased remanufactured toner cartridges from MVE. Savings are estimated by calculating the difference in price between MVE toner cartridges and non-recycled toner cartridges available from the office supplies contract. From FY09 - FY11 state agencies saved over \$500,000 dollars by utilizing this MVE's service.



### Multiple State Agencies Benefit from Tire Recycling Services



An agreement made in 1995 between the Missouri Department of Corrections (DOC) and the Department of Natural Resources (DNR) has allowed DOC's Missouri Vocational Enterprises (MVE) program to operate a tire recycling plant at the Central Missouri Correctional Center (Church Farm) in Jefferson City.

DNR agreed to purchase the equipment for tire recycling provided MVE would operate the recycling equipment. Under the agreement offenders are sent to clean up dump sites identified by DNR. The tires are taken by truck to Church Farm, where they are put through a grinding machine. Chips from the tires go up a conveyer belt and ultimately to a truck.

The material is then transported to various end-users for use as tire-derived fuel (TDF). TDF is mixed with coal as an alternative fuel source to generate electricity. The University of Missouri-Columbia (UMC) is one location where Missouri Vocational Enterprises transports TDF.

**Tires & Tire Chips at Church Farm**

In FY11, 5,900 tons of tires were recycled by MVE which can be measured as 590,000 "passenger tire equivalents". While DNR is the Department of Corrections' main customer, MVE works with the Missouri Department of Transportation (MoDOT), solid waste management districts, cities, counties, and other tax-supported entities.

### State Data Center's Box Reuse Efforts = Savings

For the past ten years operations staff in the State Data Center (located in the Office of Administration's Information Technology Division) have been reusing boxes that are used to ship customer reports and letters to

#### State Data Center Reuse Stats

FY11 Average Boxes Per Day = 25  
FY11 Estimated Boxes Reused = 8988  
Estimated Annual Savings = \$4,494

state agencies. In fiscal year 2008 it was estimated that the Data Center was reusing about 100 boxes each week. By FY11 the weekly estimate had climbed to 175 boxes each week.

## Reuse on the Rise

Widespread use of the Purchasing Committee (PCOM) listserv in FY11 helped agencies to streamline the surplus property process. Essentially the listserv is an email distribution list that allows agencies to communicate with other state agencies about property that is no longer needed or issue an email to find items that they need to acquire. Typically the exchange of property through the listserv does not cost state agencies any money.

Since FY07 the Office of Administration's (OA) Division of Purchasing and Office of Equal Opportunity have made a coordinated effort to collect 3-ring binders for redistribution to other state agencies by utilizing the PCOM listserv. This has provided other state agencies with the opportunity to save money by not having to purchase new notebooks.

Over the past five years (FY07 – FY11) these OA offices with approximately 40 employees have distributed **3,176** notebooks with a total estimated cost avoidance of **\$5,559**. This represents one example of how the listserv has made reuse of products within state government much easier.

### OA/DPMM & OEO Notebook Reuse Stats

Avg. # of notebooks distributed each year = 635  
Avg. Annual Estimated Cost Avoided = \$1,112

In order to participate with the Purchasing Committee listserv, a state employee must register with the listserv administrator. Since State Surplus Property rules apply to distribution of property via the listserv it is a good idea for employees who normally handle disposal of property to register. Here is a web link to the registration page <http://lists.mo.gov/mailman/listinfo/purchcomm>



RecycleMania is a competition among colleges and universities in the United States that provides schools with a fun, proactive opportunity to increase awareness about waste prevention and recycling on their campus. Over a 10-week period, schools compete in different contests to see which institution can collect the largest amount of recyclables per capita; the largest amount of total recyclables; the least amount of trash per capita; or have the highest recycling rate.

The following Missouri schools participated in the 2011 national competition: **Park University; University of Missouri - Kansas City; Missouri University of Science & Technology; University of Missouri - Columbia; Missouri State University; Washington University in St. Louis; Northwest Missouri State University; University of Central Missouri; Missouri Western State University; University of Missouri - St. Louis; St. Louis University; Webster University; St. Louis Community College; Maryville University of St. Louis; and Fontbonne University.**

The State Recycling Program applauds Missouri's colleges and universities for their participation in the national RecycleMania competition!



## State Fair Recycling

The State Fair marked its fourth year of recycling in 2011 by working to reduce the amount of cardboard, paper, plastic, and aluminum destined for the landfill. Each year this process has grown and matured through a partnership of the Department of Natural Resources' Solid Waste Management Program, Pioneer Trails Solid Waste Management District, the Missouri State Fair, Waste Corporation of Missouri, the Missouri Recycling Association, the Office of Administration's State Recycling Program and many volunteers.

This year's efforts at the State Fair resulted in **4.93 tons** of cardboard and **1.17 tons** of plastic being diverted from the landfill and over the past three years recycling efforts have kept **29,880 lbs.** of cardboard and **5,720 lbs.** of plastic out of the landfill. Special containers are provided during the Fair to collect these materials. In addition these containers are available for use at the various events that occur on the fairgrounds throughout the year.



State Fair Recycling @ Womans Building



Cardboard Compactor @ State Fair

This partnership plans to continue their efforts into the future to not only increase diversion of recyclable material from the landfill, but also to utilize the State Fair venue as an opportunity to educate Missouri's citizens on the economic and environmental benefits of recycling. Next year the focus will be to inform the patrons and vendors of the State Fair about the convenient recycling services available on the fairgrounds.

## State Agency Recycling Efforts Avoid Cost of Waste Disposal

The efforts of agencies statewide resulted in a combined total of **12,782 tons** (see chart on p. 8) of materials recycled in FY11. If this amount of material had been sent to landfills it is estimated the State of Missouri would have paid at least **\$543,235** in waste disposal costs. It is possible to calculate this cost avoidance based on the average tipping fee charged to waste haulers in Missouri. Tipping fees are paid by waste haulers for each ton of trash disposed in Missouri's landfills. The average tipping fee in Missouri was \$42.50 per ton in FY11.

The tipping fee is only one cost of doing business as a waste hauler. In addition to the tipping fee, a waste hauler includes labor and transportation costs in the actual amount charged to its customers. Therefore, utilizing the average tipping fee to calculate cost avoidance represents a conservative estimate.

# FY11 Overview: Recycled Content Procurement


## Recycling Program Guidelines for Buying Recycled

The State Recycling Program works with agencies to increase procurement of products containing recycled content. This is commonly referred to as “closing the loop”. Recycling can only be successful if products produced from recyclable materials are then purchased. The State Recycling Program has adopted the Environmental Protection Agency’s (EPA) “**Comprehensive Procurement Guidelines (CPG)**” for recycled content products as a roadmap for the State of Missouri to continue working towards “closing the loop”.

### Evaluation Criteria for Products Listed Under CPG:

- Availability of product
- Impact of procurement on the solid waste stream
- Economic and technological feasibility of producing the product
- Other uses of the recovered materials used to produce the product

There are 8 categories designated in the CPG. Product categories and individual items in these categories are listed below







**Products identified by the recycling symbol  also appear in the Missouri Recycled Products Directory published by the Environmental Improvement and Resources Authority’s Market Development Program. This publication is a good resource for locating recycled products manufactured and distributed in Missouri. Additional information about this directory may be found in the “Recycling Resources” section on p. 20 of this report.**

Product Fact Sheets may be found for each of these categories on the internet at the following address:




<http://www.epa.gov/epaoswer/non-hw/procure/factshts.htm>

## Comprehensive Procurement Guidelines: Recycled Product Categories





### 1. Construction Products

-  **Building Insulation**
  - Carpet (polyester)
  - Carpet Cushion
  - Laminated Paperboard
-  **Cement & Concrete Containing**
  - **Coal fly ash**
  - Furnace slag
  - Ground granulated blast
  - Cenospheres
  - Silica fume
- Consolidated & Reprocessed Latex Paint
- Floor Tiles
- Flowable Fill
- Modular Threshold Ramps
- Nonpressure Pipe
-  **Patio Blocks**
  - Railroad Grade Crossing Surfaces
-  **Roofing Materials**
-  **Shower & Restroom Dividers/Partitions**
-  **Structural Fiberboard**




### 2. Landscaping Products

-  **Compost Made from Yard Trimmings or Food Waste**
  - Garden & Soaker Hoses
-  **Hydraulic Mulch**
  - Lawn & Garden Edging
-  **Plastic Lumber Landscaping Timbers & Posts**

### 3. Park & Recreation Products

-  **Park Benches & Picnic Tables**
-  **Plastic Fencing**
-  **Playground Equipment**
-  **Playground Surfaces**
  - Running Tracks

### 4. Paper Products

-  **Commercial/Industrial Sanitary Tissue (paper towels & toilet paper)**
  - Miscellaneous Papers
  - Newsprint
-  **Paperboard & Packaging Products**
-  **Printing & Writing Papers**

### 5. Nonpaper Office Products

-  **Binders, Clipboards, File Folders, Clip Portfolios, & Presentation Folders**
-  **Office Furniture**
-  **Office Recycling Containers**
-  **Office Waste Receptacles**
  - Plastic Desktop Accessories
  - Plastic Envelopes
  - Plastic Trashbags
-  **Printer Ribbons**
-  **Toner Cartridges**



### 6. Vehicular Products

- Engine Coolants
- Rebuilt Vehicular Parts
- Re-Refined Lubricating Oils
- Retread Tires

### 7. Transportation Products

- Channelizers
- Delineators
- Flexible Delineators
- Parking Stops
- Traffic Barricades
- Traffic Cones

### 8. Miscellaneous Products

-  **Awards & Plaques**
  - Bike Racks
  - Blasting Grit
  - Industrial Drums
  - Manual-Grade Strapping
-  **Mats**
-  **Pallets**
  - Signage
  - Sorbents








## State Agencies Close the Loop with Paper Procurement

Paper is the most common recycled product purchased by state agencies. In 1990, RSMo 34.032 established attainment goals for state agencies to purchase certain percentages of products made from post-consumer recovered materials. One goal was that 60% of paper products purchased by the State of Missouri contain post-consumer materials by the year 2000. This goal was not achieved in FY11 as 54% of the overall paper purchased contained recycled content.

<b>FY11 Purchases of Recycled Paper Compared to Virgin Paper</b>					
<b>Product Category</b>	<b>Recycled Paper Purchases</b>	<b>Virgin Paper Purchases</b>	<b>Recycled Paper Purchases as a % of Total Purchases in Product Category</b>		
	<b>FY11</b>	<b>FY11</b>	<b>FY11</b>	<b>FY10</b>	<b>FY09</b>
<b>Fine Paper Products (office, copy, fax)</b>	<b>\$1,487,067</b>	<b>\$2,072,026</b>	<b>42%</b>	<b>38%</b>	<b>43%</b>
<b>Course Paper Products (napkins, towels, tissues)</b>	<b>\$2,932,427</b>	<b>\$1,670,346</b>	<b>64%</b>	<b>67%</b>	<b>94%</b>
<b>Forms (continuous &amp; snap out)</b>	<b>\$211,652</b>	<b>\$4,945</b>	<b>98%</b>	<b>95%</b>	<b>95%</b>
<b>Envelopes (Plain or Printed)</b>	<b>\$997,585</b>	<b>\$27,737</b>	<b>97%</b>	<b>88%</b>	<b>77%</b>
<b>Printing by contractors (40% of total charge is attributable to paper - figures appearing in this row represent paper cost only)</b>	<b>\$413,646</b>	<b>\$1,363,711</b>	<b>23%</b>	<b>44%</b>	<b>32%</b>
<b>Overall Totals</b>	<b>\$6,042,377</b>	<b>\$5,138,765</b>	<b>54%</b>	<b>56%</b>	<b>56%</b>

### Environmental Benefits of Buying Recycled Paper

The State of MO spent \$1,487,067 on recycled "Fine Paper Products" in FY11. A majority of this paper is printer/copier paper made with 30% post-consumer recycled paper. Purchasing this type of recycled paper versus virgin paper translates into the following estimated savings:

-  **9,559 trees**
-  **2,788,275 gallons of water**
-  **23,899 lbs. of air pollution**
-  **1,633,132 kw/hours of electricity**
-  **5.5 billion Btu – enough energy to power 53 homes in Missouri for a year!**

Source: [www.recycledproducts.org/calculator.html](http://www.recycledproducts.org/calculator.html)

## FY11 Department Reports for Recycled Content Product Procurement

Non-Paper Recycled Content Procurement (All Figures Reported in Dollars)	Auditor's Office	Treasurer's Office	Agriculture	Conservation	Corrections	Economic Development	Elementary & Secondary Education	Health & Senior Services	Insurance, Financial Inst., Prof. Reg.	Labor & Industrial Relations	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Secretary of State	Social Services	Transportation	TOTALS
Antifreeze					60													1,242	\$1,302
Batteries- Rechargeable					4,738							112		25,222				417	\$30,489
Carpet / Construction Materials				2,455			107,048				10,076	8,041	64,344	6,021		2,240	66,335	15	\$340,957
Cardboard Boxes					16,865		2,081	631	665		2,766			4,242					\$88,878
Glass Beads																		3,141,058	\$3,141,058
Printer Cartridges, Remanufactured	4,119				153,566	1,429	880	7,458	7,546	3,200	34,089	11,781		28,617	180		35,878		\$288,743
Janitorial Supplies					159,249	13	24,218		58		17,089	6,107	1,495	23,569					\$731,939
Metal Products					18,478	39		6,176	1,503					98,110	4,213,796				\$5,207,107
Nursery Supplies					2,295						180								\$2,475
Office Supplies		2,904	650		5,459		17				1,398	12,814	2,277	238,177					\$682,196
Playground Supplies												7,028							\$7,028
Promotional Items								3,184				3,673		12,670					\$19,527
Remanufactured Furniture											900								\$900
Tires, Retread					3,808													652	\$4,460
Vehicle Maintenance Supplies					1,449														\$1,449
Total Dollars Spent on Recycled-Content Products in FY11.																			\$10,548,508

**Note on Office Supplies:** The total appearing for office supplies includes agency purchases of \$425,103. This information was supplied by the contractor.  
For additional information on recycled-content products and services from MO Vocational Enterprises see p. 20 of this report.

## II. FY11 Overview: Missouri's State Recycling Fund

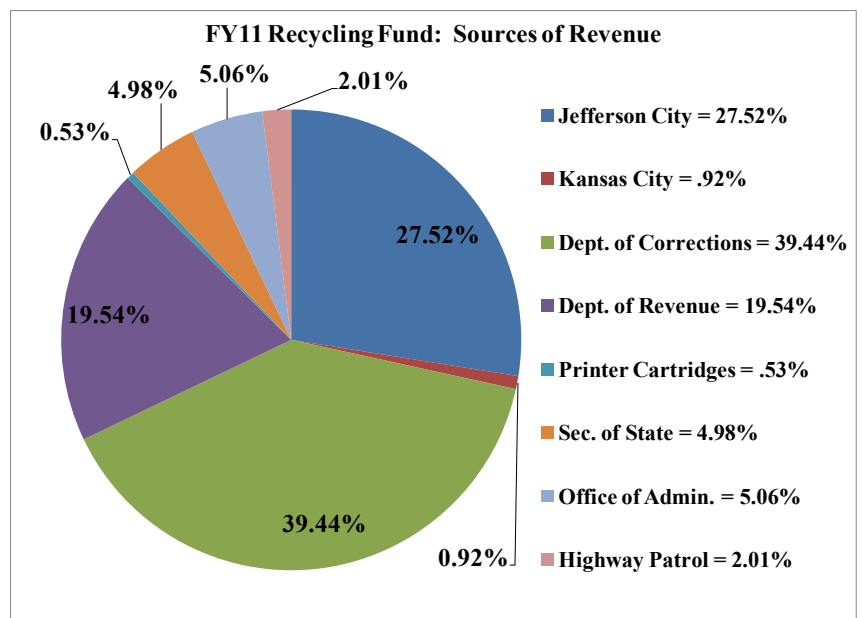
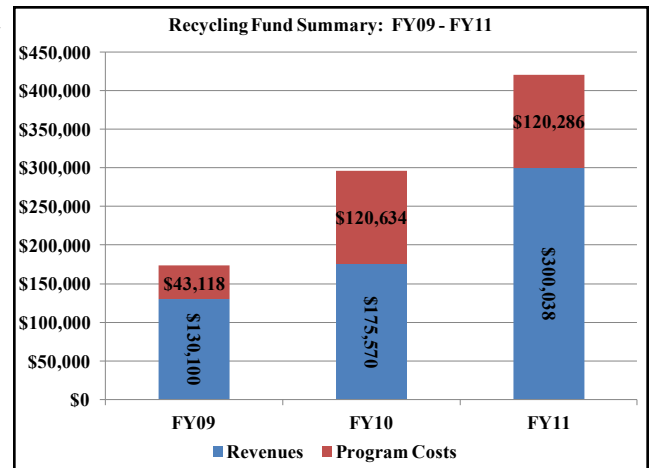
Missouri's State Recycling Fund was established by RSMo 34.032 which states that "Proceeds from the sale of recycled materials may be used to offset costs of the recycling program."

Recycling revenues increased 71% from FY10 to FY11 (see chart to the right). FY11 marked the highest generation of revenues in the MO State Recycling Program's (MSRP) history.

In FY11 the MSRP distributed over 10,000 plastic bags to state agencies. A majority of these were used to collect aluminum cans and plastic bottles with a smaller percentage used for shredded paper. In addition, over 450 recycling containers were provided to state agencies in FY11. A majority of these are being used for mixed office paper and the balance of containers is used for aluminum can and plastic bottle recycling. Other significant purchases made with monies from the State Recycling Fund included fluorescent lamp recycling services; containers for the Department of Revenue's paper recycling program; baler supplies and maintenance; and supplies for in-vessel composters located at Ozark Correctional Center and Northeast Correctional Center.

The top three sources of revenue in FY11 were the Department of Corrections (39%), the Jefferson City recycling contract (28%) and Department of Revenue (20%). (see chart to the right)

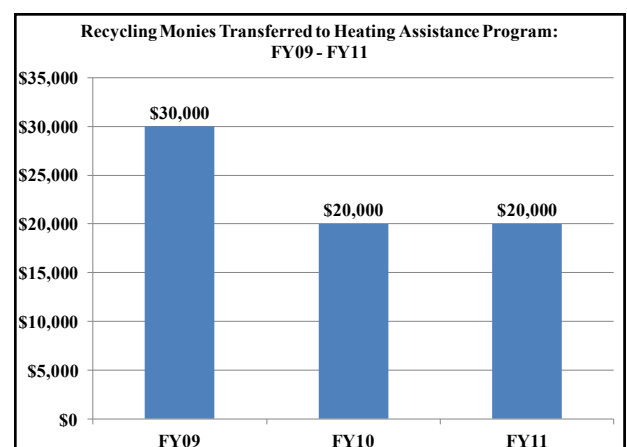
The Department of Corrections (DOC) spends a significant amount of recycling funds on consumable products such as plastic bags and baling wire for securing bales of recyclable materials. This is due to the high volume of materials that DOC generates and recycles.



### Contributions to the Heating Assistance Program (Utilicare)

Excess revenues from the sale of recyclable materials are transferred to the Heating Assistance Program managed by the Department of Social Services pursuant to RSMo 34.032. The Heating Assistance Program (HAP) - also known as Utilicare - provides financial assistance to low-income Missourians for heating their homes during winter months. The MSRP has transferred a total of **\$285,000** to the HAP since 1995.

As a result of state employee recycling efforts, the MSRP made a **\$20,000** contribution to the HAP in FY11. The \$20,000 transferred to the HAP in FY11 will help approximately 100 households in Missouri to pay their heating bills.



### III. State Recycling Program Goals

#### FY11 Goal

**Goal:** Work with the Missouri Interagency Recycling Committee (MIRC) to establish a network of recycling teams located at various state facilities. The primary purpose of the recycling team is to oversee recycling systems at their location to insure these systems are running effectively. Recycling team members will only be responsible for monitoring recycling systems at their place of work. The State Recycling Coordinator will work with MIRC to have five teams established by the end of FY11.

**Result:** The State Recycling Program determined — primarily through interaction with state agencies and state facilities — that an informal network of recycling teams already existed. High-functioning recycling teams exist in the following Jefferson City locations: Social Services (615 Howerton Ct.); Natural Resources (1730-38 E. Elm St.); Jefferson Building (205 Jefferson St.); and Truman Building (301 W. High St.).

Planning discussions with MIRC about recycling teams along with the recognition that each of the “informal” recycling teams had a unique form of organization led to the realization that efforts to formalize these recycling teams would probably not produce many benefits. As a result of these discussions it was decided to not pursue formalization of a recycling team network. Existing recycling teams can be supported by providing information, solutions, and supplies.

#### FY12 Goal

**Goal:** Establish a recycling services contract for state agencies in the St. Louis area to recycle common office waste products such as paper and cardboard.



# Missouri State Recycling Program

## IV. Recycling Resources

### **Environmental Improvement and Energy Resources Authority / Market Development Program Missouri Department of Natural Resources**

Internet: <http://www.dnr.mo.gov/eiera/mo-market-dev-program.htm>

Email: [eiera@dnr.mo.gov](mailto:eiera@dnr.mo.gov)

Phone: 573-751-4919

The **Missouri Recycled Products Directory** is published by the Market Development Program. An excellent resource for finding Missouri based businesses that manufacture or distribute recycled-content products. The directory is available online at <http://www.dnr.mo.gov/eiera/mmdp-recycled-products-directory.htm>

### **Missouri State Recycling Program**

#### **Office of Administration**

#### **Division of Purchasing & Materials Management**

Internet: <http://www.oa.mo.gov/purch/recypro.html>

Email: [recycling@oa.mo.gov](mailto:recycling@oa.mo.gov)

Phone: 573-751-2387

The Missouri State Recycling Program (MSRP) works with state agencies to increase purchases of recycled content products, reduce their waste stream and increase collection of materials for recycling. The MSRP web page is a good resource for state contracts that offer recycled content products as well as recycling services.

### **Solid Waste Management Program**

#### **Missouri Department of Natural Resources**

Internet: <http://www.dnr.mo.gov/env/swmp/index.html>

Email: [swmp@dnr.mo.gov](mailto:swmp@dnr.mo.gov)

Phone: 800-361-4827 or 573-751-5401

The Solid Waste Management Program (SWMP) works with citizens, businesses, industry, and government to continue increasing material reuse and recycling. The SWMP web page is an excellent resource for information dealing with all aspects of solid waste management in Missouri.

### **Missouri Vocational Enterprises (MVE)**

#### **Missouri Department of Corrections**

Internet: <http://www.doc.missouri.gov/mve>

Phone: 800-392-8486 or 573-751-6663

The Department of Corrections vocational training program offers the following products and services that meet “buy recycled” criteria. MVE products and services are only available to state agencies and other tax-supported entities.

#### **MVE Recycling/Remanufacturing/ Refurbishing Services**

- Tire Recycling Service  
573-635-3825
- Toner Cartridge Refill Service  
573-751-3224 ext. 1260
- Office Panel (cubicle) Refurbishing Service  
573-751-6663 or 800-392-8486

#### **MVE Recycled-Content Products**

- Cardboard boxes: 60% post-consumer content
- Plastic bags: 30% recycled material
- Metal products: 25–35% post-consumer content
- Toilet paper: 60% recycled material
- Envelopes: 30% post-consumer content